

V. KEY FACTORS SHAPING INDUSTRIAL PRODUCTION

There are a myriad of factors that have influenced and will continue to influence the scale, composition, location, and sustainability of U.S. industrial production. Primary factors include: (1) technological advancement and manufacturing productivity; (2) cost differentials, international trade, and the globalization of production; (3) science, technology, innovation, and education. In many ways, the U.S., State-level, and/or regional response to the increased opportunities and competition posed by these forces—whether through policy, education, or investment in basic research—will define the opportunities for the future.

Productivity Increases

Since well before international trade emerged as a key factor, technological advancement has been increasing manufacturing productivity and affecting the number and type of jobs supported by the manufacturing sector. Technological advancement and the automation that often goes with it have reduced the number of workers required to support a particular level of output. The faster pace of productivity increase in the U.S. manufacturing sector relative to other sectors has reduced costs and reduced the level of consumer expenditure required to obtain the same set of goods. This is one reason, in addition to the increasing focus by U.S. consumers on “quality of life” services such as healthcare, recreation, and travel, that U.S. residents are spending increasingly less on goods. For example, in 1970, U.S. residents spent 46 percent of their outlays on goods (manufacturing, agriculture, and mining) and 54 percent on services and construction. Today, U.S. residents spend 34 percent on goods and 66 percent on services.¹³

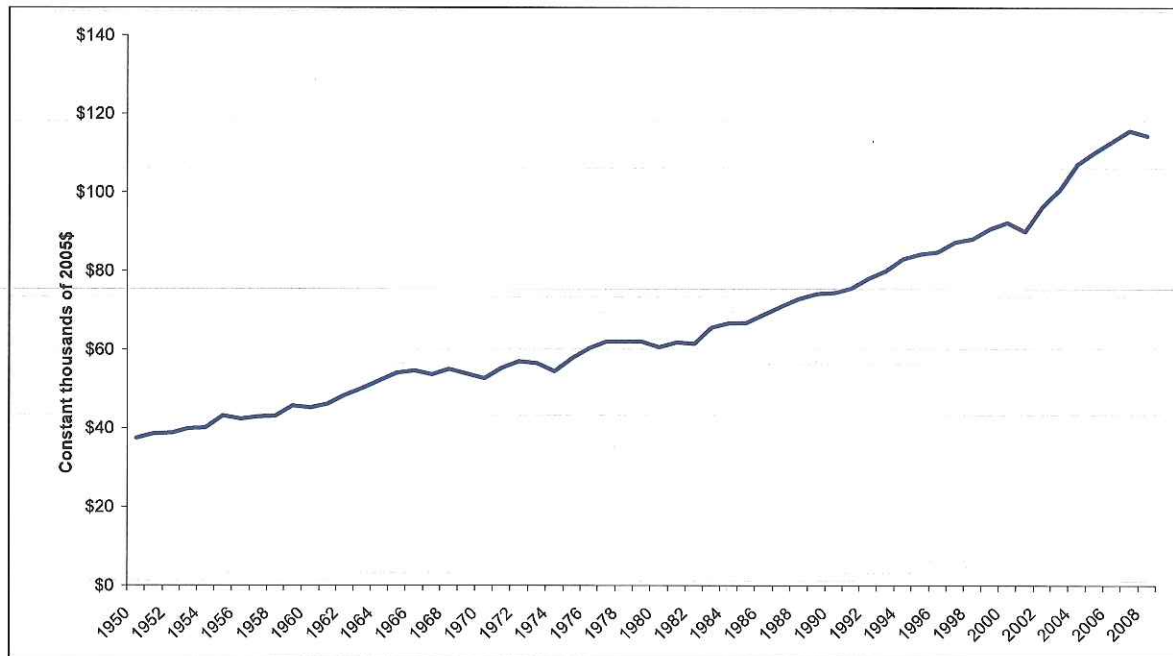
Increases in manufacturing productivity have surpassed productivity gains in other U.S. sectors. For example, from 1977 to 2002, productivity in the overall economy increased 53 percent, while manufacturing productivity rose 109 percent.¹⁴ In a comparison with 14 other industrialized or newly industrialized countries, growth in U.S. manufacturing productivity was greater than that of all but two of those countries.¹⁵ The Bureau of Labor Statistics tracks worker productivity, which is measured as the ratio between economic output and number of employees. Worker productivity has increased steadily since 1970 (when the index began) and began to increase much more rapidly in the 1990s. From 1990 to 2009, manufacturing value-added output increased 22 percent while the number of jobs declined 21 percent.

¹³ Bureau of Economic Analysis, 2009.

¹⁴ U.S. Department of Commerce. *Manufacturing in America: A Comprehensive Strategy to Address the Challenges to U.S. Manufacturers*.

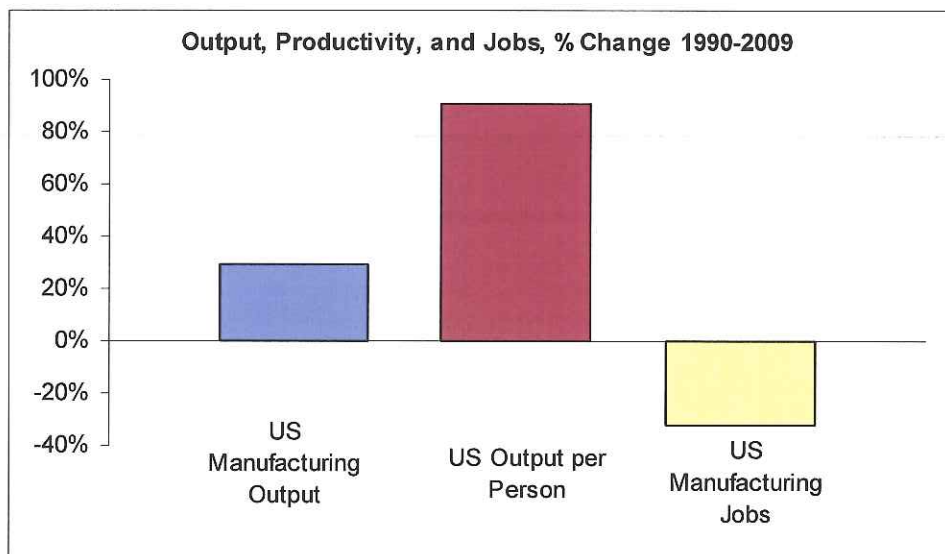
¹⁵ Milken Institute. *Manufacturing 2.0: A More Prosperous California*. June 2009.

Figure 12: Manufacturing Value-Added per Employee



Source: Bureau of Economic Analysis

Figure 13: U.S. Output, Productivity and Jobs, Percent Change (1990 through 2009)



Source: Bureau of Labor Statistics

Globalization/International Trade

Reductions in trade barriers, improvements in transportation infrastructure and logistics, and the increasing availability of information have resulted in increasing levels of international trade and competition. U.S. exports and imports have increased significantly and goods and services are exchanged across international boundaries with increasing frequency.

U.S. businesses have found new markets for their products, services, and technologies as well as improved access to supplies and technologies from abroad. U.S. consumers have been presented with a broader range of goods, whether cheaper products resulting from lower production costs in developing and emerging markets or alternative options because of successful product development in other advanced nations. Many U.S. businesses are becoming increasingly multinational in nature with the “offshoring” of a range of functions. Many U.S. firms find the greatest efficiency in stationing primary management, research and development functions in the United States and production overseas—for example, Apple employs approximately 25,000 persons in the United States to work on Apple products, while about 250,000 workers are employed in the manufacturing of Apple products in China.¹⁶ And, firms seeking to sell in other countries have found benefit in establishing a presence in major markets, whether to enhance acceptability, avoid trade barriers, or to improve efficiency (e.g., foreign car manufacturers in the United States or U.S. firms in China).

Trade Levels and Imbalances

In 2008, U.S. exports of goods and services were about \$1.8 trillion, about 13 percent of overall U.S. GDP. Imports of goods and services stood at about \$2.5 trillion, for a net trade deficit of \$700 billion, about 5 percent of U.S. GDP. The current trade deficit is driven by goods trading—the United States maintained a surplus in its service trade balance of \$135 billion in 2008.

In 2008, U.S. exports of goods were valued at \$1.3 trillion, about 70 percent of total U.S. exports and about 78 percent of U.S. manufacturing value-added GDP. With imports at \$2.1 trillion that year, the imbalance in the trade of goods was \$835 billion, about 50 percent of U.S. manufacturing value-added GDP, and 5.8 percent of U.S. GDP (about 40 percent of these goods are imported by U.S. businesses as inputs into by U.S. industrial production). While trade deficits in manufacturing goods have been a common concern for U.S. policymakers since 1970, as of 1990 the manufacturing goods trade deficit represented a relatively modest 11.7 percent of manufacturing value-added GDP and 1.9 percent of overall U.S. GDP. However, since the mid-1990s and, in large part as a result of trade with China, the manufacturing goods trade deficit exploded (see **Figure 14**).

In August 2010, the U.S. international trade deficit in goods and services was \$46.3 billion, the difference between \$200 billion in imports and \$154 billion in exports.¹⁷ Imports of goods from China (primarily toys, games, and sporting goods; household goods; and computer accessories) represented \$35.3 billion or 17.5 percent of imports in August 2010. The goods deficit with

¹⁶ Grove, Andy. How to Make an American Job Before It's Too Late. Bloomberg Opinion. July 1, 2010.

¹⁷ U.S. Census Bureau. October 14, 2010.

China was \$28.0 billion, about 60 percent of the total trade deficit, because of the modest exports of U.S. goods, about \$7.3 billion (primarily civilian aircraft, engines, equipment, and parts).¹⁸

Figure 14: U.S. Trade Balance, Goods (1960–2009) (nominal dollars)



Source: Bureau of Economic Analysis

Policy Issues

Many economists consider international trade an important source of economic growth, a spur for technological advancement and increasing productivity, and an appropriate way to drive economic development in areas of comparative advantage. The combination of the depth and longevity of the current downturn, worsening trade deficits over the last 15 years, and policy interventions by numerous countries have refocused debate in the United States around industrial policy and intervention and the need for tougher action against competitors considered to be engaged in unfair trade practices.

Significantly lower costs/prices drive the importing of many goods and services into the United States. While many of the reasons for these cost differentials are unlikely to change significantly in the short to medium term—e.g., production costs associated with labor, health and safety, and environment regulations—other cost issues have come under increasing scrutiny. Of particular concern is China’s exchange rate policy and its unwillingness to let the yuan rise against the

¹⁸ U.S. Census Bureau. October 14, 2010.

dollar to help offset the growing trade imbalance. This currency control all but assures the continuation of trade imbalances between the United States and China, with the price of importing China's industrial production kept artificially low.

Also of concern to many business groups are a number of tax and regulatory policies that may limit the incentive for multinationals to reinvest revenues back in the United States. For example, a recent policy paper issued by the Silicon Valley Leadership Group recommended lowering the corporate tax rate and crafting policies to ensure foreign earnings are repatriated.¹⁹ And finally, there are ongoing debates about the appropriateness, importance, and effectiveness of public subsidies. Many countries look to support and, in some case, protect particular industries, occasionally in potential conflict with international trade agreements - for example, China's subsidies to its clean-energy industry are currently in the spotlight. As discussed further below, whether public subsidy is best focused on education, research institutions, technology-supporting infrastructure, and/or investments into particular businesses is an open question.

Beyond these international trade factors, there are a number of other policy and economic factors that will influence the scale of industrial production in the United States including intellectual property protection concerns and transportation and other costs. In particular, relatively strong intellectual property protection provided under U.S. law makes it an attractive location for R&D off-shoring from other countries. It also a common reason cited for returning production operations to the United States. The stability of the U.S. legal framework and laws provide a level of certainty and stability not typical in emerging markets. Additionally, rising transportation costs can have a major impact on the cost of imports, and increasing environmental concerns about the carbon footprint associated with shipping goods from overseas could affect long-term demand. To the extent that these factors are enough to override cheaper overseas production costs, there can be a future for manufacturing in the United States.

Intranational Competition

As a global leader in high-technology research, development, and production, California, and the San Francisco Bay Area in particular, attract smart, ambitious entrepreneurs, scientists, and researchers who want to be a part of the State's innovation ecosystem. They seek access to academic institutions, national labs, and venture capital funding, as well as proximity to other like-minded people. At the same time, some view California and the San Francisco Bay Area as difficult places for business with high taxes, high real estate costs, significant environmental regulatory requirements, and high labor costs. The Milken Institute analyzed manufacturing jobs in California relative to manufacturing jobs in California's peer states (Arizona, Indiana, Kansas, Minnesota, Oregon, Texas, and Washington) and found that these states were able to turn around their manufacturing employment declines through targeted economic development strategies, with outreach and incentives often aimed at California firms.²⁰ While California and its core innovation regions, like the San Francisco Bay Area, may not be able to compete on cost

¹⁹ Policy Recommendations to Create U.S. Manufacturing Jobs. Silicon Valley Leadership Group. September 2010.

²⁰ Targeted economic development strategies included work force development, improvements to the business climate, improving access to capital, and investing in innovation.

with many other U.S. regions, a continued pre-eminence in combining university, federal, and industrial research and development, technology commercialization and innovation, and a talented workforce will be the key to ongoing success both internationally and intra-nationally.

Science, Technology, and Innovation

The logical response to increasing international trade competition, especially from countries offering significantly lower labor costs, is for the United States to focus on “high value” production requiring a more skilled and innovative workforce. A core area of undoubted U.S. strength is its R&D. By most measures—Nobel prizes, patents of significance, royalties and licensing fees, the quantity of publications and their quality as evidenced by the number of citations—the United States is at the forefront of innovation.²¹ U.S. research universities, national labs, and nonprofit research institutes have long driven advancements in basic and applied science with increasing rates of technology transfer and commercialization, increasing numbers of research partnerships between industry and government, and increasing levels of R&D investment by industry.

Innovation Activity

Innovation regions throughout the United States—often “co-located” regionally with academic, federal, and nonprofit—have taken advantage of these research efforts and led numerous waves of innovation through overlapping formal and informal relationships between universities, established companies, and start-ups. The San Francisco Bay Area and Silicon Valley, in particular, stands out as global and nation leader in R&D. Silicon Valley’s percentages of total California and U.S. patent registrations have continued to grow over the last decade, if at a slower rate than in the 1990s. In 2007, patents registered by primary inventors located in Silicon Valley represented 50 percent of all patents registered in California and 12 percent of all registrations with the U.S. Patent and Trade Office. Silicon Valley cities make up half of the top ten cities in the United States for patent registrations. While total patents slowed slightly, the Valley actually increased its contributing share of California and U.S. patents. Additionally, the region accounts for a growing percentage of U.S. green technology patent registrations.

Financing

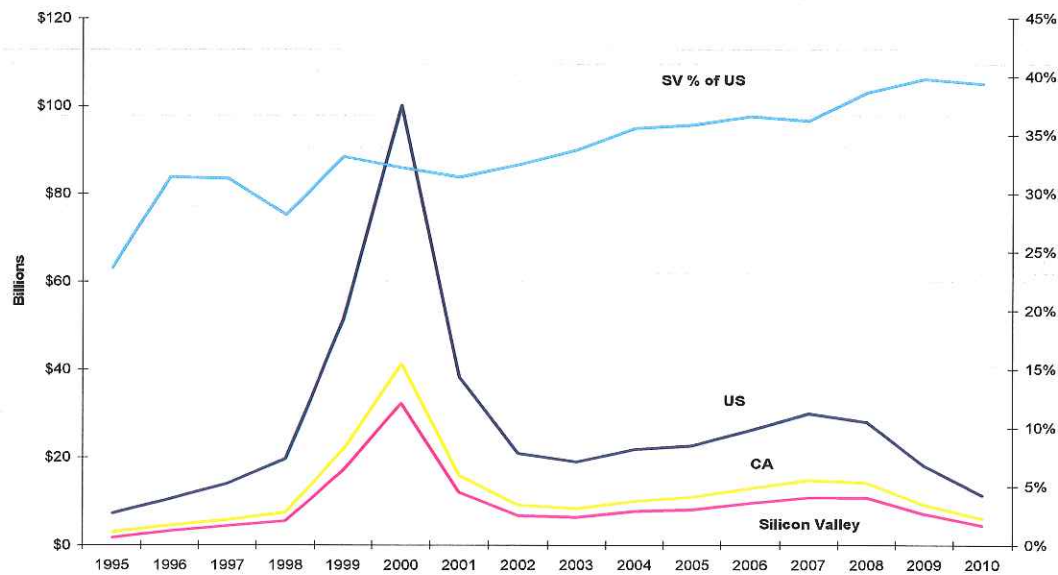
The United States’ well-developed system of venture capital financing has long helped support U.S. development and commercialization of technologies. With the period in technology development between the basic research of academic/federal research institutions and actual commercialization by industry often referred to as the “valley of death” because of a lack of financing invested at this stage, venture capital plays a critical role in technology commercialization. Venture capital funding has been a major source of support for California’s growing industries. Funding has increased steadily, but slowly, after falling from \$43 billion to \$9 billion in the dot-com crash. New funding is concentrated in biotech, green tech, software

²¹ Van Noorden, Richard. Building the Best Cities for Science. *Nature*. Volume 467. October 2010.

and other services.²² California's share of U.S. venture capital formation, another measure of location decisions and competitiveness, has been in a steady upturn. California's share recently hit an all-time record level of near 50 percent of total U.S. venture capital funding.

In Silicon Valley (defined as San Mateo and Santa Clara counties by the Joint Venture: Silicon Valley Network's annual Index report), venture capital investment in 2008 was down for the first time since 2005 in the region and nationally, but the Valley maintained its 29 percent national share of venture capital in 2008.

Figure 15: Venture Capital Investment



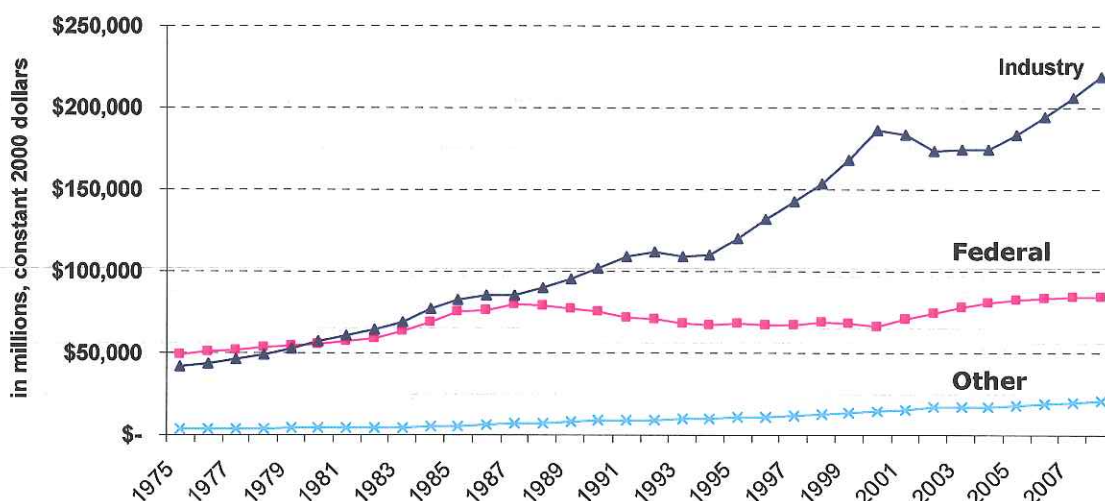
Sources: PricewaterhouseCoopers National Venture Capital Association Money Tree Report

New Challenges

Even the current U.S. pre-eminence in science, technology, and innovation is starting to face growing concerns. The ability of the United States to invest in education—especially public education—at all levels is diminishing, potentially weakening one of the United States' foundational strengths. Concerns over national security are diminishing the ability of universities and business to attract the top minds from other countries. Federal investment in research has been flat for a long time, though this has been countered, in some measure, by industrial investment. Other countries that are capturing an increasing share of global manufacturing are also eyeing higher-value functions as their labor force becomes more skilled and new industries emerge.

²² Levy, Stephen. California's Future Economy and Population: Implications for a Fiscal Policy Agenda. Center for Continuing Study of the California Economy. February 2009.

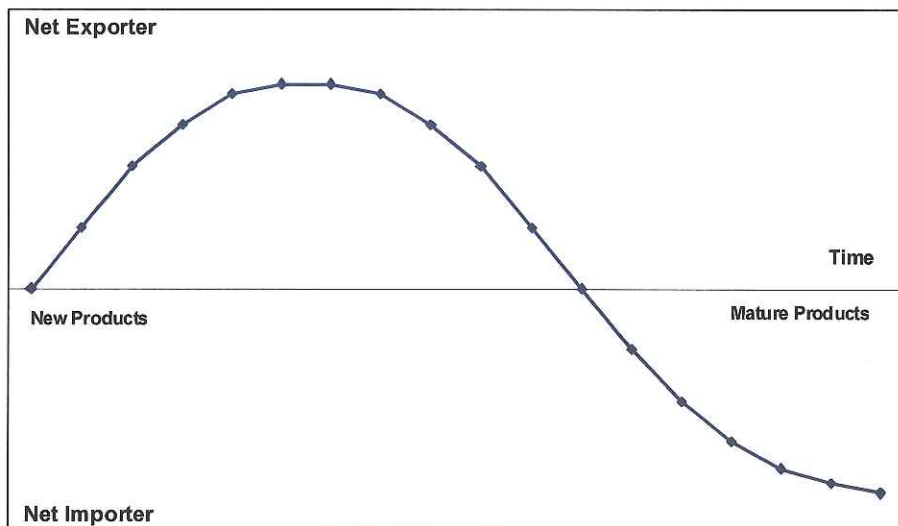
Figure 16: U.S. R&D Spending by Source (1975 to 2008)



SOURCES: National Science Foundation, Division of Science Resources Statistics (NSF/SRS), Research and Development in Industry 2007; Academic Research and Development Expenditures: FY 2008; Federal Funds for Research and Development: FY 2007–09; and Research and Development Funding and Performance by Nonprofit Organizations: FY 1996–97. All NSF/SRS reports available at <http://www.nsf.gov/statistics/>

The historical pattern of the United States' experience with new technologies over time shows a strong trade surplus in the early years of a technology's discovery and development, as illustrated below (see **Figure 17**). Over time, as the technology matures, its production becomes more distributed and the United States transitions from being a net exporter of the technology to being a net importer, resulting in a turnaround of the trade balance.

Figure 17: U.S. Experience with New Technologies



Source: Unknown

However, with ongoing off-shoring of production, the longevity of the expected trade surplus may be starting to diminish. Furthermore, the cleantech sector, for example, an emerging new technology sector that would typically be expected to be primarily researched, developed, and produced in industrialized nations, may defy this paradigm. China, for example, already has more than one million jobs in the cleantech sector and is now the largest competitor for U.S. cleantech manufacturers.²³ And, as mentioned previously, the Chinese clean-energy industry (solar and wind) is heavily subsidized and supported by the government through free (or cheap) land, low interest loans, and government assumption of loan interest payments as well as expedited factory permitting and construction.²⁴

²³ Bradsher, Keith. On Clean Energy, China Skirts Rules. The New York Times. September 8, 2010.

²⁴ Bradsher, Keith. On Clean Energy, China Skirts Rules. The New York Times. September 8, 2010.

VI. PROMISING INDUSTRIAL SECTORS

Whether or not R&D and manufacturing remain feasible uses for the South Fremont/Warm Springs Study Area will depend in part on the outlook for promising industrial sectors in the coming decades in the context of the factors described in the previous section. Despite very significant job losses in manufacturing, the industry remains one of the nation's largest and strongest economic engines. The future of R&D and manufacturing will depend a great deal on economic development and fiscal policies to enhance competitiveness enacted at the national and State levels. Promising industrial sectors to monitor include:

- Electric Vehicle Industry
- High-Tech and Information Technology
- Clean and Green Technology
- Biotechnology
- Logistics/Warehousing
- High-Speed Rail

Electric Vehicle Industry

Defining the Cluster

"Electric vehicle industry" refers to the developers and manufacturers of electric vehicle technologies, components, and vehicles. The electric vehicle industry is a sub-category of the "Clean and Green Technology" industry since the electricity used to power these vehicles can theoretically be generated by renewable and low-carbon footprint energy sources. A number of start-up and entrepreneurial ventures have entered the electric vehicle industry since the world's major automobile manufacturing companies long ignored the technology. Electric vehicle technology development is focused on extending battery life and decreasing charging times without sacrificing performance and comfort, thus requiring development of new battery technology, regenerative braking systems, lightweight components, aerodynamic designs, higher-efficiency electronics and climate controls, infrastructure for recharging, etc.

Overview of Global and National Existing Conditions and Trends

Electric vehicles have become a niche for entrepreneurial innovation since major automobile manufacturers largely ignored all-electric vehicles and chose to focus on hybrids, hydrogen fuel-cell development, and alternative fuels. Tesla Motors paved the way for electric vehicle start-ups, based on the realization that in-house research and development costs were lower than perceived because of battery technology and efficiency improvements pioneered by consumer electronics companies. Tesla Motors was financed in the manner of a typical Silicon Valley startup, with angel investment by now-CEO Elon Musk, followed by venture capital investment

and a stock offering.²⁵ The government has also provided significant support, including a \$465 million loan in 2009 through the Advanced Technologies Vehicle Manufacturing Loan Program.²⁶

The current U.S. electric vehicle industry is split between large, traditional manufacturers and small start-ups. There are three significant start-ups planning or producing production vehicles in the United States:

- Tesla Motors: Tesla is the best-capitalized and developed start-up. The company is headquartered in Palo Alto, has a design facility in Hawthorne (Southern California), and in 2010 purchased the NUMMI plant. The company has been selling its high-end Roadster model in modest quantities since 2008, but is gearing up to produce the Model S sedan at the former NUMMI plant in 2012. Tesla also has battery and drive train technology sales or production agreements with Daimler and Toyota. Daimler, Toyota, and Panasonic are major partners with the company.
- CODA Automotive: CODA is a privately-held company headquartered in Santa Monica, California. The company produces electric vehicle battery technology specializing in thermal management, and was scheduled to release its first vehicle—the CODA Sedan—in late 2010. The vehicle was developed cheaply by modifying an existing Chinese-produced sedan. CODA plans to open a joint-venture battery production facility in Columbus, Ohio. As of October 2010, the company was negotiating with Amports to perform final CODA Sedan assembly in Benicia, California (with the bodies and interiors shipped in from China).²⁷ CODA has received more than \$125 million in private investment.²⁸
- Fisker Automotive: Fisker is a privately-held company based in Irvine, California. The company plans to debut its plug-in hybrid Karma sports car in late 2011. While the Karma will be manufactured in Helsinki, Finland, Fisker has also agreed to acquire a former GM plant in Wilmington, Delaware, to produce the Project NINA plug-in hybrid sedan. Fisker has agreed to acquire the plant for \$20 million and will spend approximately \$125 million to prepare it for production. The company received \$528.7 million in ATVM loans for this purpose.²⁹ Fisker has also received over \$300 million in private investment.³⁰

²⁵ Davis, Joshua. "How Elon Musk Turned Tesla into the Car Company of the Future." *Wired*. 27 September 2010.

²⁶ Department of Energy. Website. Accessed 1 November 2010.

²⁷ Motavalli, Jim. "Enterprise to Rent CODA Electric Cars." *The New York Times*. Wheels Blog. 14 October 2010.

²⁸ CODA. "Battery System and Electric Car Manufacturer CODA Closes Oversubscribed Series C Investment Round." Press Release. 19 May 2010.

²⁹ Department of Energy.

³⁰ Volpe, Michael. "Fisker Hiring for Karma, Other Cars." *Orange County Business Journal*. 17 October 2010.

Established manufacturers planning electric vehicle releases include GM, Nissan, Daimler, Ford, Mitsubishi, Volkswagen, Fiat, Honda, and Toyota. Of these, GM and Nissan will be first to the mass market in late-2010. A number of small electric vehicle manufacturers exist worldwide, but many are producing unusual or very small vehicles unlikely to capture widespread market attention. However, widespread government investment is driving increased global competition. Electric vehicle research has also generated several battery technology start-ups.

Government incentives and regulations play a major role in driving the electric vehicle industry. Several Federal measures help develop technology to supply viable electric vehicles; for example, the ATVM program has provided nearly \$8.3 billion in loans to four manufacturers for final engineering and manufacturing facilities.³¹ The American Reinvestment and Recovery Act included \$2.4 billion in grants for electric vehicles. Other grant programs promote development of electric charging infrastructure and related technology research. On the consumer end, demand is bolstered by up to \$7,500 in Federal tax credits and various state-offered credits for electric vehicle purchases. Government investment and incentive programs now exist in most developed nations with potential to compete in the electric vehicle arena.

The long-term outlook for electric vehicles is unclear. As shown above, most major manufacturers plan to release electric vehicles, and the government is providing generous subsidies. However, a number of variables are still uncertain, including market popularity, electrical grid capacity, actual operations cost savings, ability to reduce price at increased scale, vehicle performance in challenging conditions, actual emissions reductions, and development of infrastructure for recharging away from home.

As with any new technology, industry success would likely result in a period of instability as start-ups are acquired by major manufacturers, license their technology, or are driven out of business. Most electric cars targeted to Americans are now being manufactured in the United States; this may change if restrictive trade regulations are loosened by other countries.³²

Bay Area Positioning

The Bay Area has taken an early and highly-promising lead in electric vehicle start-ups because of the presence of Tesla Motors and large quantities of venture capital. CODA's potential plant in Benicia—though temporary until a Southern California plant can be built—will further boost the Bay Area's electric car manufacturing prowess. The Bay Area may ultimately play a niche role in the electric vehicle industry, focused on development of technology and start-ups, with manufacturing contained to the new start-ups. No major established automobile company manufactures cars in the Bay Area; such manufacturers tend to locate new domestic plants in the southern United States. Southern California leads in vehicle design and domestic headquarters for foreign automobile manufacturers.

³¹ Department of Energy.

³² Rahim, Saqib. "Can America Lead the Global Electric Car Industry?" *Scientific American*. 28 September 2010.

Site-Specific/Fremont Implications

Tesla Motors now owns the former NUMMI plant, where it plans to produce the Model S in 2012 and potentially other products; the factory may function as a seed to grow electric vehicle-related manufacturing and development facilities nearby. Assuming Tesla is successful, the company will likely expand dramatically within the facility over time based on contracts for battery, drive-train, and/or vehicle production. Tesla's research and development facility is still located in Palo Alto, but a shift to the Fremont factory could drive additional research facilities to locate nearby.

High-Tech and Information Technology

Defining the Cluster

The high-tech and information technology industry comprises industries that deal with the use of computers and telecommunications to convert, process, retrieve, store and transmit information³³. More specifically it includes industries such as computer systems design, computer and electronic products, software publishers, telecommunications, semiconductors, and networking and information technology services.

Overview of Global and National Existing Conditions and Trends

A recent report on information technology by the World Economic Forum and INSEAD points out that the industry has become increasingly important for the global economy. It accounts for approximately 5 percent of GDP growth between 2003 and 2008.³⁴ The information technology industry has continuing potential to increase efficiency and sustainability world-wide given its applicability to the enhancement of existing systems.

The information technology industry has a particular ability to help cities and nations achieve sustainability and carbon reduction goals. Using information technology can reduce energy consumption through the implementation of smart buildings, smart grids, reduced travel, and improved energy efficiency.³⁵ Statewide high tech employment continues to be a key part of economic growth. High-tech employment as a percentage of total manufacturing employment in California has increased since 2003.³⁶

³³ Information Technology Association of America. <http://www.itaa.org/>

³⁴ Dutta, Soumita (INSEAD) and Irene Mia (World Economic Forum). The Global Information Technology Report 2009–2010: ICT for Sustainability. 2010.

³⁵ GBS Bindra. How Technology Will Drive the Transition to the Low-Carbon Economy: ICT and the Sustainability Imperative.

³⁶ Bureau of Labor Statistics.

Bay Area Positioning

There are approximately 5.8 million high tech workers in the United States³⁷. The Bay Area continues to hold onto and grow its reputation as the leading information technology region in the United States. According to a 2008 report by the American Electronics Association, the Bay Area as a whole ranks as the largest high-tech center in the United States, with 386,000 high-tech jobs, followed by New York with 316,500 jobs and Washington, D.C., with 295,800 jobs. Silicon Valley ranked highest in the concentration of high-tech workers in the United States, with 285.9 out of every 1,000 private sector jobs.³⁸ The region also ranks highest in high-tech manufacturing.

A recent report by the Bay Area Council states that "an educated and well-trained workforce is critical to attracting entrepreneurs and capital, achieving high rates of productivity, and spurring the innovation that lies at the heart of the Bay Area success story."³⁹ There are some challenges ahead as the decreasing emphasis or interest in key subjects like math, science and engineering in the nation's schools and universities has required Bay Area companies to attract large numbers of high-tech workers from abroad to meet the demand of this growing industry. It is unclear whether or not the supply of workers from overseas will be enough to meet the demand for jobs in this sector if the local supply of workers qualified to work in this industry continues to decrease. "The other challenge is replacing the hundreds of thousands workers who will retire or change occupations. Data from the California Employment Development Department show that for every opening created by job growth in the Bay Area, nearly three replacement job openings will be created."⁴⁰

Site-Specific Implications

Since Fremont is at the periphery of Silicon Valley, it serves as a tertiary location for high-tech businesses. It serves a niche for companies that need a low-cost option in the Bay Area but don't need to be in the center of Silicon Valley. Additionally, there is still a large supply of vacant space in the core of Silicon Valley resulting from the "Dot-Com Bubble" or high technology recession of the early 2000s. High vacancy rates persist today suggesting that it could take some time for the vacancy rate to drop enough to spur development in nearby areas. Given these factors, Fremont is unlikely to attract the level of high-tech employment of cities like Palo Alto, Mountain View and Menlo Park.

³⁷ Cybertcities 2008: A Complete State-by-State Overview of the High-Technology Industry. American Electronics Association.

³⁸ Ibid.

³⁹ Recession and Recovery: An Economic Reset. Bay Area Economic Profile. Bay Area Council Economic Institute. April 2010.

⁴⁰ Ibid.